

## REMARKS

In the Office Action, the Examiner has imposed a restriction requirement between Group I drawn to an apparatus (claims 1-13) and Group II drawn to a method (claims 14-20). During a telephone conversation between the Examiner and Mr. Neil Nydegger on July 17, 2003, a provisional election was made with traverse to prosecute the invention of Group I (claims 1-13) and that election is hereby confirmed. Accordingly, claims 14-20 are hereby canceled without prejudice and without surrender of subject matter.

Also in the Office Action, claims 11-13 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Higo et al. 6,495,110. In addition, claims 1-10 have been rejected under 35 U.S.C. § 103(a) as being unpatentable in light of various references.

In this Response to Office Action, independent claim 1 has been amended to now recite an elongated scraper bar having at least a portion that is disposed in a cylindrical reaction vessel. As amended, claim 1 further recites that the scraper bar is aligned substantially parallel to the vessel's longitudinal axis and offset therefrom for interaction with the inside surface of a substantially cylindrical scraper. Support for these amendments is found in the specification on page 16 at lines 27-31 and Figs. 2, 3 and 5-8.

Also in this Response to Office Action, independent claim 11 has been amended to now recite a scraper bar, an arm attached between a first edge and a second edge of the scraper bar and a means coupled to the arm to rotate the scraper bar about a cylindrical reaction vessel axis. As amended, claim 11 now also recites that the first edge is positioned at a first distance from the inner surface of the vessel, the second

edge is positioned at a second distance from the inner surface, and the first distance is larger than the second distance. Support for these amendments is found in the specification beginning on page 18 at lines 15-19, page 19 at lines 10-20, in Figs. 9A, 9B and 10 and in original claim 12. In addition, claim 12 has been canceled without prejudice or surrender of subject matter to accommodate the amendment to claim 11.

Amendments to the claims have been presented herein to improve the readability of the claims and to point out the features which distinguish the present invention over the cited art. Also, these amendments have been made to more clearly define the structure and cooperation of structure for the present invention. Claims 1-11 and 13 remain pending.

#### Rejections under 35 U.S.C. § 102(e)

As indicated above, the Examiner has rejected claims 11-13 under 35 U.S.C. § 102(e) as being anticipated by Higo et al. 6,495,110.

In this Response to Office Action, independent claim 11 has been amended and now recites, *inter alia*, an apparatus for hydrothermally treating a reactant comprising a vessel having a longitudinal axis and a scraper bar having a first and second edge. The apparatus of amended claim 11 further comprises an arm that is attached to the scraper bar between the first and second edge and a means coupled to the arm to rotate the scraper bar about the longitudinal axis to remove solids from an inner surface of the vessel. Amended claim 11 also now recites that the first edge is positioned at a first distance from the inner surface of the vessel, the second edge is positioned at a second distance from the inner surface, with the first distance being larger than the second

distance. As indicated in the specification of the present application, this combination allows for a leading edge of the scraper bar to be positioned closer to the surface to be scraped than the trailing edge and allows multiple scraper bars to be nested.

No such structure or cooperation of structure is either taught or suggested by Higo et al. Specifically, Higo et al. fail to disclose an arm that is attached to the scraper bar between the first and second edge, wherein the first edge is positioned at a larger distance than the second edge from the inner surface of the vessel. Instead, and quite unlike the present invention, the device suggested by Higo et al. relies on the use of a cylindrical bar having a number of rectangular shaped veins which protrude therefrom to a single edge which is uniformly spaced from the inner vessel surface. Thus, the Higo et al. disclosure fails to teach or suggest a scraper bar having a first scraper bar edge that is positioned at a larger distance than a second scraper bar edge from the inner surface of the vessel, together with an arm that is attached to the scraper bar between the edges.

Accordingly, Attorney for Applicant respectfully contends that independent claim 11 is not anticipated by Higo et al. Further, since claim 13 depends directly from independent claim 11 it is likewise allowable. As indicated above, claim 12 has been canceled. For the reasons set forth above, Applicant believes that the basis for rejecting claims 11-13 under 35 U.S.C. § 102(e) has been overcome and the rejections should be withdrawn.

#### Rejections under 35 U.S.C. § 103(a)

In the Office Action, claims 1-8 have been rejected under 35 U.S.C. § 103(a) as

being unpatentable over Hazlebeck et al. 6,054,057 in view of Higo et al. In addition, claims 9 and 10 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Hazlebeck et al. in view of Higo et al., and further in view of Barham et al.

In this Response to Office Action, independent claim 1 has been amended and now recites an apparatus for hydrothermally treating a reactant comprising an elongated scraper bar having at least a portion that is disposed in a cylindrical reaction vessel. As amended, claim 1 further recites that the scraper bar is aligned substantially parallel to the vessel's longitudinal axis and offset therefrom for interaction with the inside surface of a substantially cylindrical scraper. The apparatus of claim 1 further comprises a means for rotating the scraper about a scraper axis for movement relative to the scraper bar to remove solids from the scraper.

No such structure is either taught or suggested by the cited references (i.e. Hazlebeck et al., Higo et al. or Barham et al.), taken individually or in combination. In particular, none of the cited references teach an elongated scraper bar for interaction with the inside surface of a rotatable, substantially cylindrical scraper. For example, the Hazlebeck reference, although disclosing a rotatable cylindrical scraper, does not disclose an elongated scraper bar for interaction with the inside surface of the scraper. Nor is the teaching that is lacking in the Hazlebeck et al. reference provided by Higo et al. In particular, Higo et al. use a cylindrical bar having a number of rectangular shaped veins which protrude therefrom to scrape a vessel wall. In short, Higo et al. do not use or disclose a rotatable cylindrical scraper, and accordingly, provide no motivation to use a scraper bar in combination with a rotatable cylindrical scraper to control solids in a hydrothermal treatment apparatus.

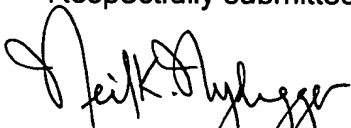
For the reasons cited above, Attorney for Applicant respectfully contends that independent claim 1 is now allowable. Accordingly, since rejected claims 2-10 depend either directly or indirectly from independent claim 1, these claims are also allowable. For the reasons set forth above, Applicant believes the basis for rejecting claims 1-10 under 35 U.S.C. § 103(a) has been overcome and the rejections should be withdrawn.

The references cited by the Examiner, but not relied on for the rejection of claims, have been noted.

In conclusion, Applicant respectfully asserts that claims 1-11 and 13 are patentable for the reasons set forth above, and that the application is now in a condition for allowance. Accordingly, an early notice of allowance is respectfully requested. The Examiner is requested to call the undersigned at 619-688-1300 for any reason that would advance the instant application to issue.

Dated this 7<sup>th</sup> day of January, 2004.

Respectfully submitted,



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